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(54) Title: PROCESS AND APPARATUS FOR THE PRODUCTION OF USEFUL PRODUCTS FROM CARBONACEOUS FEEDSTOCK

(57) Abstract: A carbonaceous feedstock to alcohol conversion process in which carbon dioxide is removed from the syngas stream issuing from a feedstock reformer, to yield a carbon dioxide depleted syngas stream including hydrogen, carbon monoxide and methane. This carbon dioxide depleted syngas stream is then passed through a Fischer-Tropsch reactor ultimately yielding a mixed alcohol product which is preferably largely ethanol. The removed carbon dioxide stream is passed through a methane reformer along with methane, which is produced in or has passed through a Fischer-Tropsch reactor, to yield primarily carbon monoxide and hydrogen. The carbon monoxide and hydrogen stream from the methane reformer are passed through the alcohol reactor. Also disclosed are a unique catalyst, a method for controlling the content of the syngas formed in the feedstock reformer, and a feedstock handling system.